



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,688	11/26/2003	Peter Gaal	030153	8929
23696	7590	11/12/2010	EXAMINER	
QUALCOMM INCORPORATED			HO, HUY C	
5775 MOREHOUSE DR.			ART UNIT	PAPER NUMBER
SAN DIEGO, CA 92121			2617	
			NOTIFICATION DATE	DELIVERY MODE
			11/12/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

[us-docketing@qualcomm.com](mailto:us-docketing@qualcomm.com)

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/723,688	GAAL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	HUY C. HO	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 20 August 2010.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-31 and 37-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-31, 37-42 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 11/26/2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>06/04/2010</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: _____ .                        |

**DETAILED ACTION*****Response to Arguments***

1. In response to applicant's argument filed 08/20/2010 that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Lindskog does not appear to disclose or suggest allocating different codes and/or sub-codes to the same subscriber station, or, in Lindskog, the sub-codes on the Walsh code tree in figure 2 are not capable of transmitting at a full rate") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

As for argument of reference Kim that Kim cannot cure Lindskog's deficiency of a second subcode derived from a first code to support for a supplemental channel to a second subscriber station. The examiner respectfully disagrees because Kim in analogous art, i.e., a method for allocating and assigning spread codes for channels, where Kim teaches a base station assigning an orthogonal code to a subscriber station for communication on a supplemental channel (Kim, col 5 lines 10-57, col 6 lines 30-47). Thus Kim discloses and suggests a second subcode derived from a first code to support for a supplemental channel to a second subscriber station.

As for argument for reference Scherzer provides no rational for how a full rate Walsh code could be assigned to Kim's supplemental channel (Arguments/Remarks, page 13, first paragraph). As addressed above that the argument of full rate Walsh code transmission which are not recited in the rejected claims, therefore it makes the argument irrelevant.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

Art Unit: 2617

be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-6, 14-24, 37, 39 and 41-42** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindskog (U.S. Pub. No. 2006/0120322) in view of Kim et al. (U.S. Pat. No. 6,870,824).

**In regard to Claims 1 and 19,** Lindskog teaches allocating a first code to a first subscriber station, (*A request comes in for allocation of channel resources, and a specific channel resources is allocated, Abs.*).

assigning a first sub-code derived from the first code to support a dedicated channel to the first subscriber station, (*depending upon the rate needed, a code is broken down as shown in Fig. 2 into smaller sub-codes of the larger code to maximize the resources available., Para 25-27*)

assigning a second code to support a dedicated channel to a second subscriber station; (*codes are assigned to subscriber stations as needed in the network, a first or second station would be assigned a code as per requests in the system. Depending upon the rate needed, a code is broken down as shown in Fig 2 into smaller sub-codes of the larger code to maximize resources available, Para 25-27*)

wherein the first and second sub-codes are restricted to lower data-rate transmissions as compared to the first code. (*depending on the rate, a code is broken down as shown in Fig. 2 as described in the current applications specification into a code tree of multiple rates. Lindskog teaches sub-codes being restricted to a lower data-rate transmission as compared to the main code as they are derivatives of the larger full rate code, Para 25-27*)

Lindskog does not teach assigning a second sub-code derived from the first code to support a supplemental channel to the second subscriber station. (*Specifically assigning a second channel to a single mobile station*).

Art Unit: 2617

Kim teaches a supplemental channel generator. The supplemental channel having a scheduled negotiating rate. An unused code that is not assigned to the other channel generators (*leftovers of the orthogonal codes*) are assigned to the supplemental channel generator to spread the signal on the supplemental channel with the assigned orthogonal code. (*the supplemental channels are assigned the leftover codes unused by the dedicated channels. This is read upon as the sub-codes derived from a first code as the unused part of a first code could be used for any subscriber station needing a supplemental channel, whether it be a second station a third station, etc. the unused will be used for the supplemental as necessary for assignment to a mobile station, Col 6, Ln 31-63*)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lindskog to include the teaching of Kim as described above. One of ordinary skill in the art could have combined the known prior art elements using known techniques to yield predictable results to one of ordinary skill in the art.

**In regard to Claims 14 and 41, (Currently Amended),** Lindskog teaches receiving information from a base station comprising a first code, (*A request comes in for allocation of channel resources, and a specific channel resources is allocated, Abs*)

searching through the first code to locate a sub-code, (*depending upon the rate needed, a code is broken down as shown in Fig. 2 into smaller sub-codes of the larger code to maximize the resources available., Para 25-27*)

disseminating a dedicated channel from the base station with a second code, (*It is reasonable for one of ordinary skill in the art to assume this process can be done for multiple mobile stations for assigning a second code to support a dedicated channel to the second subscriber station. (depending upon the rate needed, a code is broken down as shown in Fig 2 into smaller sub-codes of the larger code to maximize resources available, Para 25-27)*)

wherein the first and second sub-codes are restricted to lower data-rate transmissions as compared to the first code. (*depending on the rate, a code is broken down as shown in Fig. 2 as described in the current applications specification into a code tree of multiple rates. Lindskog*

Art Unit: 2617

*teaches sub-codes being restricted to a lower data-rate transmission as compared to the main code as they are derivatives of the larger full rate code, Para 25-27)*

Lindskog does not teach disspreading a supplemental channel with a sub-code and communicating on the dedicated and supplemental channels.

Kim teaches a supplemental channel generator. The supplemental channel having a scheduled negotiating rate. An unused code that is not assigned to the other channel generators (*leftovers of the orthogonal codes*) are assigned to the supplemental channel generator to spread the signal on the supplemental channel with the assigned orthogonal code. (*the supplemental channels are assigned the leftover codes unused by the dedicated channels. This is read upon as the sub-codes derived from a first code as the unused part of a first code could be used for any subscriber station needing a supplemental channel, whether it be a second station a third station, etc. the unused will be used for the supplemental as necessary for assignment to a mobile station, Col 6, Ln 31-63*)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lindskog to include the teaching of Kim as described above. One of ordinary skill in the art could have combined the known prior art elements using known techniques to yield predictable results to one of ordinary skill in the art.

**In regard to Claims 37 and 39,** Lindskog teaches allocating a first code to a first subscriber station, (*A request comes in for allocation of channel resources, and a specific channel resources is allocated, Abs*)

assigning a first sub-code derived from the first code to support a dedicated channel to the first subscriber station, (*depending upon the rate needed, a code is broken down as shown in Fig. 2 into smaller sub-codes of the larger code to maximize the resources available., Para 25-27*)

assigning a second code to support a dedicated channel to a second subscriber station; (*codes are assigned to subscriber stations as needed in the network, a first or second station would be assigned a code as per requests in the system. Depending upon the rate needed, a code is broken down as shown in Fig 2 into smaller sub-codes of the larger code to maximize resources available, Para 25-27*)

Art Unit: 2617

wherein the first and second sub-codes are restricted to lower data-rate transmissions as compared to the first code. (*depending on the rate, a code is broken down as shown in Fig. 2 as described in the current applications specification into a code tree of multiple rates. Lindskog teaches sub-codes being restricted to a lower data-rate transmission as compared to the main code as they are derivatives of the larger full rate code, Para 25-27*)

Lindskog does not teach assigning a second sub-code derived from the first code to support a supplemental channel to the second subscriber station. (*Specifically assigning a second channel to a single mobile station*)

Kim teaches a supplemental channel generator. The supplemental channel having a scheduled negotiating rate. An unused code that is not assigned to the other channel generators (*leftovers of the orthogonal codes*) are assigned to the supplemental channel generator to spread the signal on the supplemental channel with the assigned orthogonal code. (*the supplemental channels are assigned the leftover codes unused by the dedicated channels. This is read upon as the sub-codes derived from a first code as the unused part of a first code could be used for any subscriber station needing a supplemental channel, whether it be a second station a third station, etc. the unused will be used for the supplemental as necessary for assignment to a mobile station, Col 6, Ln 31-63*)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lindskog to include the teaching of Kim as described above. One of ordinary skill in the art could have combined the known prior art elements using known techniques to yield predictable results to one of ordinary skill in the art.

**In regard to Claims 2 and 20,** Kim teaches assigning a third sub-code derived from the first code to support a second supplemental channel to the second subscriber station. (*Kim teaches a supplemental channel generator using unused codes for the supplemental channels, Col 6, Ln 31-63) As discussed above the additional space from a channel could be used to support other channels from a first code*)

**In regard to Claims 3 and 21,** it is obvious to one of ordinary skill in the art that that in a communication system at any time there can be a mobile in soft hand off and one not in soft handoff.

Art Unit: 2617

There can also be none in soft handoff. The allocation of a code to a mobile in soft-hand off would only constitute holding the resource in the first cell for additional time. (Para 65)

**In regard to Claims 4 and 22,** Lindskog teaches separating communications to the second subscriber station into first and second portions. Spreading the first portion of the communication with the second code and spreading the second portion of the communications with the second sub-code. (*spreading codes are assigned to a forward-link connections from a first set of orthogonal odes as long as there are codes available in the first set. When no more codes are available, codes from a second set Are assigned. Para 4*)

**In regard to Claims 5 and 23,** Lindskog teaches he first sub-code comprises a plurality of concatenated copies of the first code. (Para 28)

**In regard to Claims 6 and 24,** Lindskog teaches signaling to the second subscriber the first code. (Para 27-30)

**In regard to Claims 15 and 16,** Lindskog teaches wherein the information comprises a plurality of codes including the first code and the first code containing the sub-code. (Para 28)

**In regard to Claims 17 and 18,** Lindskog teaches wherein the information is carried on the dedicate channel. (*dedicated channel is used for communication between the base station and the mobile station, Fig. 1, Para 28*)

**In regard to Claim 42,** (Previously Presented) The method of claim 1, Lindskog teaches wherein the first code corresponds to a first Walsh code of a first length, the first and second sub codes of the first code correspond to sub-Walsh codes of a second length, the first and second sub-codes collectively constituting the first code, and wherein the second code corresponds to a second Walsh code of the first length (*Lindskog, figure 2, paragraphs [25]-[30], Walsh codes are used in channelization codes for spreading are Orthogonal Variable Spreading Factor OVSF codes at different lengths are shown in figure 2 as different at each level of the spreading tree*).

Art Unit: 2617

4. **Claims 7, 25, 38 and 40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Linskog (U.S. Pub. No. 2006/0120322) and further in view of Scherzer et al. (U.S. Pub. No. 6,901,062).

In regard to Claims 7, 25, 38 and 40, Linskog teaches allocating a different first code from a plurality of orthogonal codes to each of the subscriber stations; (*A request comes in for allocation of channel resources, and a specific channel resources is allocated, Abs,*)

assigning each subscriber station either its first allocated code or a first sub-code derived from its allocated first code to support a dedicated channel, (*It is reasonable for one of ordinary skill in the art to assume this process can be done for multiple mobile stations for assigning a second code to support a dedicated channel to the second subscriber station, Para 25-27*) assigning a second sub-code derived from one of the first codes to support a communications channel to one of the subscriber stations. (*Linskog teaches when assigning a code to a channel the codes not used in the allocation to the first channel are available for future allocation to provide other channels. Para 28*)

wherein the first and second sub-codes are restricted to lower data-rate transmissions as compared to the first code. (*depending on the rate, a code is broken down as shown in Fig. 2 as described in the current applications specification into a code tree of multiple rates. Linskog teaches sub-codes being restricted to a lower data-rate transmission as compared to the main code as they are derivatives of the larger full rate code, Para 25-27*)

Linskog does not teach separating a plurality of mobile stations into groups.

Scherzer teaches grouping the subscriber stations in a number of groups (e.g., M groups) and allocating resources to subscriber stations in groups. (Col 9, Ln 33-55)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Linskog to include the teaching of Scherzer in order for a larger number of subscriber stations to be handled and provide more efficient server while taking into a larger group of connections rather than a single mobile stations.

Art Unit: 2617

5. **Claims 8-13 and 26-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lindskog (U.S. Pub. No. 2006/0120322)**, **Scherzer et al. (U.S. Pub. No. 6,901,062)** and further in view of **Kim et al. (U.S. Pat. No. 6,870,824)**.

**In regard to Claims 8 and 26**, Lindskog teaches assigning a second code to support a dedicated channel to said one of the subscriber stations in the second group, (*It is reasonable for one of ordinary skill in the art to assume this process can be done for multiple mobile stations for assigning a second code to support a dedicated channel to the second subscriber station. (depending upon the rate needed, a code is broken down as shown in Fig 2 into smaller sub-codes of the larger code to maximize resources available, Para 25-27)*).

Kim teaches a supplemental channel generator. The supplemental channel having a scheduled negotiating rate. An unused code that is not assigned to the other channel generators (*leftovers of the orthogonal codes*) are assigned to the supplemental channel generator to spread the signal on the supplemental channel with the assigned orthogonal code. (*the supplemental channels are assigned the leftover codes unused by the dedicated channels. This is read upon as the sub-codes derived from a first code as the unused part of a first code could be used for any subscriber station needing a supplemental channel, whether it be a second station a third station, etc. the unused will be used for the supplemental as necessary for assignment to a mobile station, Col 6, Ln 31-63*)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination to include the teaching of Kim as described above. One of ordinary skill in the art could have combined the known prior art elements using known techniques to yield predictable results to one of ordinary skill in the art.

**In regard to Claims 9 and 27**, Lindskog teaches separating communications to the second subscriber station into first and second portions. Spreading the first portion of the communication with the second code and spreading the second portion of the communications with the second sub-code. (*spreading codes are assigned to a forward-link connections from a first set of orthogonal odes as long as there are codes available in the first set. When no more codes are available, codes from a second set Are assigned. Para 4*)

Art Unit: 2617

**In regard to Claims 10 and 28,** Joshi teaches assigning a third sub-code derived from the first code to support a second supplemental channel to the second subscriber station. (*Joshi teaches assigning up to seven additional supplemental channels, Para 3–31) As discussed above the additional space from a channel could be used to support other channels from a first code.* (Para 27, 29 , 36 and 43)

**In regard to Claims 11 and 29,** it is obvious to one of ordinary skill in the art that in a communication system at any time there can be a mobile in soft hand off and one not in soft handoff. There can also be none in soft handoff. The allocation of a code to a mobile in soft-hand off would only constitute holding the resource in the first cell for additional time. (Para 65)

**In regard to Claims 12 and 30,** Lindskog teaches he first sub-code comprises a plurality of concatenated copies of the first code. (Para 28)

**In regard to Claims 13 and 31,** Lindskog teaches signaling to the second subscriber the first code. (Para 27-30)

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUY C. HO whose telephone number is (571)270-1108. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

Art Unit: 2617

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Huy C Ho/

Examiner, Art Unit 2617

/Patrick N. Edouard/

Supervisory Patent Examiner, Art Unit 2617